EAGLE ARM Baseboard

DIAMOND SYSTEMS
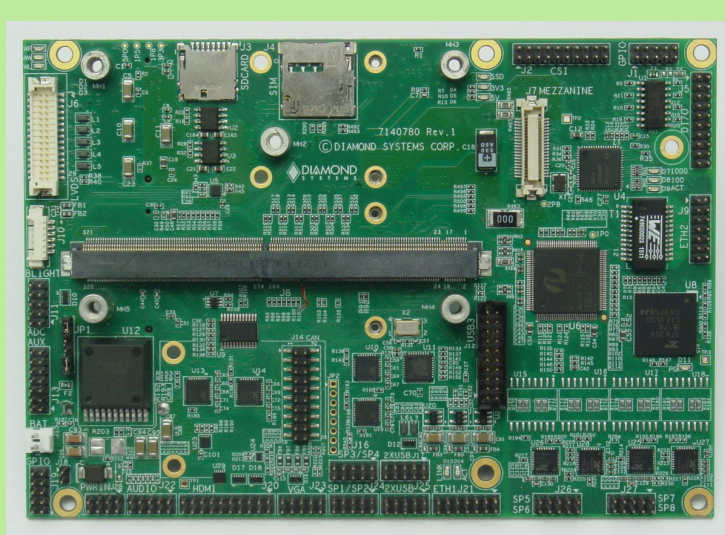
3.5 Inch Form Factor Baseboard for Toradex Apalis ARM Computer-on-Modules

Create a Complete ARM-Based System

Eagle provides a long life, scalable platform for ARM-based application development. Toradex's Apalis module family currently contains three members and all have long life commitments from their suppliers, ensuring long life availability of the complete product. Customers have great flexibility in selecting the price/performance characteristics of the installed COM along with multiple configurations including the number of cores, memory and flash size, and operating temperature.
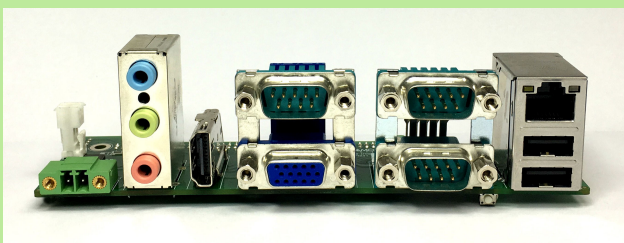
Customizability

Most I/O features can be configured to meet any customer's specific requirements as well as cost and power consumption targets. This includes removal of unneeded features and I/O connectors plus additional ruggedization services.

Panel I/O Board

A panel I/O board is available with industry-standard I/O connectors to simplify system development. The board plugs onto the pin headers along the front edge of the Eagle baseboard, reducing cabling and making system assembly easier.

A cable kit is also available, providing access to all I/O features on the board, including the I/O accessed with the panel I/O board.

- ◆ Choice of Toradex ARM Computer-on-modules:
  - – NVIDIA Tegra T30 1.4GHz quad core Cortex A9
  - – i.MX6 NXP/Freescale 1GHz or 800MHz Cortex A9
  - – NVIDIA Tegra TK1 up to 2.2GHz Cortex A15 (coming soon!)
- ◆ Standard baseboard I/O features:
  - – 4 USB 2.0 ports
  - – 8 RS-232/422/485 serial ports
  - – 2 Gigabit Ethernet ports
  - – VGA, HDMI and dual channel LVDS display options
  - – HD audio interface with MIC in and Line out
  - – 4 12-bit A/D; 4 PWM; I2C; SPI; 16 GPIO lines
  - – 4 opto-isolated digital in, 4 opto-isolated digital out
  - – Camera serial interface (CSI)
  - – PCIe MiniCard and mSATA sockets
  - – "Type specific" I/O connector for mounting custom daughterboard
- ◆ Wide input 9VDC to 36VDC power supply
- ◆ 3.5 inch form factor: 4.0" x 5.75" (102mm x 146mm)
- ◆ -40°C to +85°C (-40°F to +185°F) operating temperature

Selection of Toradex ARM COMs

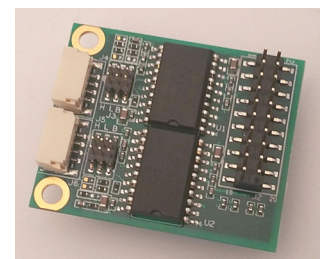| Apalis iMX6	Apalis T30	Apalis TK1 (coming soon!)
Freescale i.MX6	NVIDIA Tegra 3	NVIDIA Tegra K1
ARM Cortex A9	ARM Cortex A9	ARM Cortex A15
Quad core Dual core	Quad Core	Quad core
1GHz / 800MHz	1.4GHz	Up to 2.2GHz
512MB to 2GB DDR3 RAM	1GB or 2GB DDR3 RAM	2GB DDR3 RAM
4GB eMMC flash	4GB/8GB eMMC flash	16GB eMMC flash
End of life 2028	End of life 2025	End of life 2025

See www.toradex.com for more information.

Linux Board Support Package

The Eaglet Linux BSP is based on the Open Embedded Build Framework. The BSP is delivered on a 32GB micro-SD module and contains all drivers necessary for controlling all peripherals on Eaglet. Just plug the SD into Eaglet and the board is ready to run.

Optional Dual CAN

An optional daughterboard can be mounted on Eaglet to provide access to the 2 CAN 2.0 ports available on the Apalis module. The ports feature opto-isolation and jumper-configurable split bias termination.

EAGLE: Baseboard For Toradex Apalis ARM COMs

DIAMOND SYSTEMS

Specifications

Supported COMs	Apalis iMX6 800MHz or 1GHz ARM Cortex A9 Apalis T30 1.4GHz ARM Cortex A9
Networking	2 Gigabit Ethernet ports
Serial ports	8 RS-232/422/485 ports with software configuration
USB ports	4 USB 2.0 ports
Video output	**i.MX6** **T30** VGA 1280x1024 1920x1200 LVDS 1920x1200 dual ch 2048x1536 dual ch HDMI HDMI1.4a up to 1080p/60Hz
Mass storage	1 micro SD & 1 mSATA socket
Camera input	MIPI CMOS sensor interface
Audio	HD audio line in, line out
Data acquisition and control	4 12-bit A/D, 4 PWM 16 GPIO, 3.3V logic levels 4 opto-isolated in / 4 opto out, 3-28VDC
Connectivity	1 I2C, 1 SPI, 2 CANbus 2.0 on pin headers
I/O expansion	PCIe MiniCard socket (with SIM socket) Type specific connector for custom I/O
Input voltage	9VDC to 36VDC
Power consumption	12V in: 1.8W / 28V in: 2.8W Not including installed ARM module
Operating temp	-40°C to +85°C (-40°F to +185°F)
Shock & Vibration	MIL-STD-202G compatible
Dimensions	4.0" x 5.75" (102mm x 146mm)
RoHS	Compliant

Ordering Information

EGL-DX-BB	Eagle Baseboard for Toradex Apalis COMs No ARM module or software BSP
DK-EGL-MX6Q2G-LNX	Eagle Development Kit with i.MX6 / Linux
DK-EGL-T3Q1G-LNX	Eagle Development Kit with T30 / Linux
SDK-EGL-MX6-LNX	Linux BSP for Eagle / i.MX6 on Micro-SD
SDK-EGL-T3-LNX	Linux BSP for Eagle / T30 on Micro-SD
PNL-EGL-01	Eagle/Eaglet Panel I/O Board
CK-EGL-01	Eagle cable kit, no HDMI cable
CK-EGL-02	Eagle cable kit with HDMI cable

Complete Solutions Available

Eaglet is also available as a complete SBC with Apalis module and heat sink pre-installed. The SBC is also available in an enclosure for a deployment-ready solution with table-top, bulkhead, and DIN rail mount options.

Eagle / Eaglet Block Diagram

V1.4